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**Karen Richmond, University of Dundee – Written evidence
(FRS0101)**

9. What role for should the Forensic Science Regulator have? If the Forensic Science Regulator is to have statutory powers, what should these be?

The decision to place the Office of the Forensic Science Regulator on a statutory basis has been welcomed by many forensic practitioners. However, the legal implications of the Forensic Science Bill – and the proposed ambit of the FSR – deserve closer scrutiny. A potential source of problems may be Section 2, subsections 1-2, which require the Regulator 'to publish a code of practice about the carrying on of forensic science activities in England and Wales.' (2)(a) states that the code must specify the 'forensic science activities' to which it applies. Meanwhile, sub-section (2)(b) allows that the Regulator 'need not make provision about every 'forensic science activity'. For the purposes of disambiguation, s.11 goes on to explain the meaning of 'forensic science activity'. A 'forensic science activity' – according to s.11(1) – is 'any activity relating to the application of scientific methods...' This inclusion might prove problematic.

Those academics and practitioners who have kept abreast of current developments in both the forensic science, and criminal justice, sectors may apprehend a potential flaw in the proposed legislation. In it's current incarnation, this Bill would appear to be limited only to the regulation of forensic science providers carrying out certain forms of forensic DNA-profiling. The problem stems from the liberal application of the terms 'science', and 'scientific method'. For, whilst DNA-profiling (at least in its routine forms) is, without doubt, a fully scientific forensic technique, many common forensic practices – particularly those involving the comparison of observable features – are not based upon discernible scientific methods. This latter category may include; fingerprint examination, bite-mark analysis, shoemark analysis, toolmark analysis, ballistic comparisons, unvalidated DNA mixture analysis, and hair analysis, to name but a few.

Similar problems relating to the scientific status of common forensic practices were addressed in a US report, in 2016. The PCAST (President's Council of Advisors on Science and Technology) Report, on '*Forensic Science in The Criminal Courts*' found that many common techniques were not underpinned by reliable empirical studies that could establish the 'foundational validity', or reliability, of the technique. In other words, these techniques are not 'science'. Until recently, there was no comparable legal requirement in the UK for admissible expert evidence to be based upon scientific method. However, that changed with the introduction of the amended Criminal Practice Directions, and attempts, on the part of the Regulator – using the regulatory guidance, and codes of conduct and standards – to ground forensic quality assurance in scientific method. These developments have gone largely unnoticed (save for some incisive academic comment from Professor Ward), and deserve further scrutiny.

The starting point for an elaboration, and critique, of the FSR's position, is the Law Commission Report, *Expert Evidence in Criminal Proceedings in England and Wales*, which, in 2011, recommended the introduction of a statutory 'reliability' test for determining the admissibility of expert evidence. The commission recommended that admissibility be assessed by way of an enhanced '*Daubert*' test, of the sort encountered in the US (see below). In the various jurisdictions of the UK, the role of the expert witness has traditionally been framed fairly broadly, in terms of the expert's ability to assist the court (and such experts could include scientists, individuals with specialist knowledge, and those possessing particular skills). However, the criteria for admissibility of expert opinion evidence, articulated in the American courts, differed greatly.

The US courts used to uniformly follow the *Frye* standard (*Frye v. United States*, 293 F 1013 (D.C. Cir. 1923)), which holds that expert testimony based upon scientific techniques is only admissible when these techniques have become generally accepted within the relevant scientific community. However, following the judgement in *Daubert v Merrel Dow Pharmaceuticals* 509 U.S. 579 (1994), the Supreme Court amended Rule 702 (regarding the use of expert testimony) to introduce a new admissibility test. Within the preponderance of US states, all expert opinion evidence must now meet the *Daubert* standard, measured against five criteria. *Daubert* requires that, in judging the admissibility of expert evidence, the court must look to the underlying methods used, in order to assess:

- whether a method can or has been tested;
- the known or potential rate of error;
- whether the methods have been subjected to peer review;
- whether there are standards controlling the technique's operation; and,
- the general acceptance of the method within the relevant community.

Thus, the American judge now exercises a gatekeeping function, and must ensure that all expert testimony 'proceeds from scientific knowledge'. Indeed, the *Daubert* criteria may be viewed as a partial incorporation of Mertonian scientific norms. However, in practice, the introduction of the *Daubert* test caused a great many problems for certain types of forensic practitioner – particularly friction ridge examiners – whose methods were not consonant with scientific method. Therefore, in 1999, the test was extended to include methods based upon 'technical' knowledge [see *Kumho Tire Co. v. Carmichael*, 526 U.S. 137 (1999)].

Returning to the UK, the Law Commission's proposals for an enhanced *Daubert* admissibility test, as recommended in 2011, failed to make provision for the forms of technological, or 'non-scientific' evidence, admitted in the US courts through *Kumho*. After consideration, the Law Commission's recommendation was rejected by the Government, on economic grounds. Therefore the common law rules on admissibility of expert evidence subsist. However, rejection did not spell the end for the 'enhanced *Daubert* test'.

However, in 2014, the Lord Chief Justice (Lord Thomas) issued a Practice Direction (effective from 7th October 2014), containing the selfsame enhanced admissibility

test. Thus, a test 'recognisably derived from *Daubert*', was 'introduced to the courts by [a] somewhat unusual mechanism.' [See Ward, T. *An English Daubert? Law, Forensic Science and Epistemic Deference* The Journal of Philosophy, Science & Law: Daubert Special Issue, Volume 15, May 29, 2015, pages 26-36]. The Criminal Practice Directions were also amended. Direction 19A3 acknowledged that the Law Commission declined to introduce an enhanced *Daubert* test. It stated, however, that nothing prevents the courts from assessing admissibility at common law using *Daubert* Criteria. It went further, stating that 19A4 lists matters with which an experts report must deal in order for such an assessment to be carried out (see 19A4(h) below).

(h) [an expert report must] include such information as the court may need to decide whether the expert's opinion is sufficiently reliable to be admissible as evidence;

Thus admissibility becomes inextricably linked to scientific reliability. This may appear unproblematic, at least on the face of it. However, the attempts to ground a procedurally innovative *Daubert* test in domestic legal precedent are arguably misconceived. For example, the underlying guidance quotes a short passage from *Dlugosz*¹, stating that the court must ensure 'that there is a sufficiently reliable scientific basis for the evidence to be admitted.' However, it may be argued that this *obiter* statement has been taken out of context. The discussion in *Dlugosz* centred around the evaluation of DNA profiles, a singularly 'scientific' evidence type. It is far from clear that the court intended this requirement to apply more widely, to all forms of forensic evidence.

Further, that inclusion from *Dlugosz* is itself founded upon the judgement in *Reed*², paragraphs 111-2, which specifically refers to appropriate admissibility criteria, to be used when dealing with 'scientific evidence of a scientific nature...'. It may be readily inferred, and rightly, that there are other forms of non-scientific evidence, and that these non-scientific evidence types may be judged by other criteria. This distinction has become lost along the way – forensic practitioners are now faced with the problem of negotiating a common-law, practice-based, set of admissibility criteria, which require that all evidence – scientific, technical, or otherwise – are based upon reliable scientific methods (as laid out in *Daubert*).

To return to Rule 19.4, this states that a report 'must include such information as the court may need to decide whether the expert's opinion is sufficiently reliable to be admissible as evidence;' Therefore, in light of the directions above, it may be stated that forensic reports must contain substantive evidence of the conformity, of the methods used within the report, with scientific method vis-à-vis the enhanced *Daubert* criteria. It may be further inferred, that forensic reports must contain substantive evidence of the conformity of the evaluative report itself with scientific method vis-à-vis the enhanced *Daubert* criteria.

¹ *R v Dlugosz* [2013] EWCA Crim 2

² *R v Reed, Reed & Garmson* [2009] EWCA Crim LR 2698,

Alongside the above requirements, laid out in the Criminal Practice Rules (and associated Directions), the Forensic Science Regulator 'suggests', in her guidance that the courts determine the issue of whether expert evidence is 'sufficiently reliable' with reference to the presence, or otherwise, of accreditation (amongst other things). Further, that all methods – standard, or novel – be validated, and that all validations (whether in reports or as the basis of expert opinion) 'consider' 19A5 of the Criminal Practice Directions. As seen above, these Practice Directions are based on the 'enhanced *Daubert*' criteria. Therefore, the validity, hence soundness, of expert methods are directly referable to 'enhanced *Daubert*' criteria. And those, as has been shown, are based upon scientific method.

The above demonstrates another instance of the tendency to view the palette of forensic techniques as being co-extensive with scientific method. However, in the absence of reliable empirical studies that can establish the 'foundational validity', or reliability, of the techniques involved, many of these techniques would be unable to surmount the regulatory hurdle.

Similar problems afflict the current Bill. The Forensic Science Regulator Act makes provision for the investigation of Forensic Science Providers, and the issuing of a Compliance Notice (see Section 6(2)). Since such notices may be the subject of an Appeal to the First Tier Tribunal – on the grounds that the decision was wrong in law (Section 8(2)(b)) – it is not unreasonable to predict a direct challenge to the definition of 'forensic science activities', and of the applicability of the term to a large number of forensic techniques. Should the Bill pass in its current form, that becomes a possibility.

7 December 2018